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ART. I. *Chronic Intumescence of the Tongue.* By THOMAS HARRIS, M. D. Surgeon of the United States' Naval Hospital in Philadelphia, and one of the Surgeons of the Pennsylvania Hospital. [With a Plate.]

MARGARET LAWSON, aged twenty-four, a native of Ireland, was admitted June 1st, 1829, into the Pennsylvania Hospital, with a chronic enlargement of the tongue.

Her mother states that until the age of four years her daughter enjoyed robust health. Without any previous indisposition, she was awoke from sleep with severe pain in her tongue. In the morning she observed that it was swollen and slightly protruded between her teeth, accompanied with great thirst and heat of skin. Against the following evening, the tongue had enlarged so as to project from her mouth three inches. In this protruded state it uninterruptedly continued, increasing with the growth of her body.

The disease for several weeks was accompanied with great pain and difficulty of deglutition. After this period her sufferings gradually decreased, until she became comparatively easy. She was unable for years to articulate intelligibly, but acquired by degrees the power of speech, though her tones were always thick and hoarse. Whilst speaking, an effort was made to give to that portion of the tongue which was within the mouth, its natural movements.

At the period when she first consulted me, her tongue was of the following dimensions:—

Length of protrusion from the upper incisors to the most depending part of the organ, four inches;—around its edge from the

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canine teeth on either side, seven inches and one-fourth;—circumference, six inches and three-fourths;—vertical thickness, one inch and three-fourths.

The prolapsed portion of the tongue seemed materially changed in structure, was extremely dense, of a dark chocolate colour, and constantly covered with a slimy exudation. The part within the mouth was entirely free from disease, was natural in width and appearance with the exception of an enlargement of the papillæ maximæ to four or five times their natural dimensions.

The weight of the tongue drew the os hyoides and larynx upwards and forwards; the incisors and canine teeth of the inferior maxillary bone were forced horizontally forwards, and on the teeth of the left side there was a large deposit of tartar, of the size of a walnut, which, pressing on the under surface of the tongue, caused a painful ulceration. It was indeed the distressing inconvenience arising from this ulcer, which induced her to apply for professional assistance.

From the circumstance of the inferior maxillary bone being kept constantly open, it had lost in some degree its natural angle. There was also a curvature of the jaw, the concavity being upwards, commencing anterior to the angle, and terminating near the symphysis, by which the patient could bring the grinders of her upper and lower jaws in contact. She was thus enabled to perfectly masticate her food notwithstanding the anterior part of her jaws were separated nearly two inches.

The lower lip was so inverted, that the upper margin of it was turned over the chin. Except when eating, the saliva flowed constantly from the mouth, which greatly aggravated the inconvenience of the disgusting deformity.

For the purpose of affording present relief from the painful effects of the ulcer, the inferior incisors and canine teeth were extracted. Under the use of mildly astringent washes, and a regulated diet, the ulcers on the inferior part of the tongue readily healed.

An effort was now made, agreeably to the plan proposed by PIERRE LASSUS, to lessen the magnitude of the organ, by the application of leeches and pressure, and then to force it into its natural situation. This measure produced great pain and irritation, and entirely failed of accomplishing the ends proposed. The tongue was too large to be forced back into the mouth, and if that part of the treatment had succeeded, still I must have failed, inasmuch as I could not, (from the altered shape of the lower jaw,) close the mouth so as to retain the organ in its proper position.

Though this distinguished surgeon reports several cases in which

his plan of treatment proved successful, yet by referring to his cases it will be seen that they were of but few years standing, and that no material alteration in the structure of the tongue, or in the shape of the inferior maxillary bone had taken place.

After consulting with my colleagues, Drs. HEWSON and BARTON, it was determined to remove the protruded portion of the tongue. The case being a novel one, and apprehending troublesome hemorrhagy, it was determined to strangulate it by means of a ligature. We were partly led to this determination by the confident recommendation of Sir EVERARD HOME, who repeatedly removed diseased portions of tongue in this manner. According to his statement, neither great pain nor irritation, nor any other untoward symptom followed the operation.

On the 24th of June, assisted by my colleagues, and in the presence of the house surgeons, Drs. FOX and HAMMERSLY, and a large medical class, the operation was performed in the following manner. A needle four and a half inches long, slightly curved, and armed with a double iron wire, well annealed, was made to penetrate the inferior part of the tongue, at a point corresponding with the anterior edge of the inferior maxillæ, and was brought out opposite the superior incisor teeth. The ends of the wires were then separated, and passed through double cannulas placed on either side of the tongue. After twisting one end of each of the wires, to one of the arms of each of the cannulas, the other ends were forcibly drawn at the same time, by means of forceps, until the prolapsed organ appeared perfectly strangulated, when the other ends of the wires were fastened in the ordinary manner.

Though great force was used in the application of the wire, yet it was with regret I observed, in two hours after the operation, that the circulation was not entirely interrupted. A strong waxed silken ligature of eight threads was passed around the tongue in the furrow caused by the iron wire, and drawn with such tension as appeared to perfectly strangulate it. After the lapse of forty-eight hours, I had again the mortification to discover that the circulation was again fully restored, even to the apex of the tongue; that the portion of it within the mouth was painful and much swollen, and that her face was flushed, and accompanied by severe pain in the head and back.

In the present condition of the whole organ, further efforts at strangulation would seem injudicious, if not hazardous, and the removal of it with the knife offers the only alternative. With the consent and advice of my colleagues, it was amputated with a catlin directly through the depression formed by the ligature. The two principal

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arteries were immediately secured with ligatures. The others were permitted to bleed for some time, for the purpose of subduing the inflammation caused by the extreme irritation of the ligatures, after which, three additional arteries were tied. The wound was then dressed with dry lint, and secured by a roller, which was passed several times over the amputated stump and back of the neck, and terminated with a few turns over the top of the head and under the chin.

There was not found the slightest difficulty in arresting the hæmorrhagy. The pain caused by the knife was trifling indeed, when compared with the torture inflicted by the ligature. Not one unpleasant symptom followed the last operation. It has been therefore a subject of sincere regret to me, that I had not performed the operation of amputation in the first instance, as I thereby would have saved my patient much suffering. I have long thought that the practice of removing tumours by means of ligatures is a relic of barbarous surgery, and ought to be discarded, where the knife can with any degree of propriety be used. The result of this operation has strengthened my former convictions.

I have been thus particular, in order to deter others from pursuing a practice, which proved not only unsuccessful, but almost insupportably painful.

After the removal of the lint and bandage which was first applied, the wound was dressed several times a day with lint previously immersed in the mucilage of slippery elm, *Ulmus Americana*.

On the fourth day after the operation, the patient had a slight tumefaction of the tongue, accompanied with some fever and head-ache. These symptoms were all promptly relieved by the application of a few leeches to the throat, and under the chin. No untoward symptom occurring, the stump was perfectly healed on the seventeenth day after the operation.

The patient was still, however, greatly deformed. Having no controul over the muscles of the lower lip—it continued to hang over the chin—the obtuse angle of the lower jaw, its curvature downwards, and the elongation of the molar teeth, rendered it impossible to bring the anterior part of the jaws nearer to each other than an inch and an half.

To lessen this deformity, I drew the two last molar teeth of the lower jaw, which, as I have already stated were more than ordinarily long. The separation of the mouth still continued rather more than an inch. I did not despair, however, but that nature, which has the power of altering the condition of parts, so as to adapt them to new circumstances, and thus remedy defects, would in due time

not only bring the parts in contact which had been unnaturally separated, but would restore the muscular power of the lip so as to give to the patient entire controul over it. This expectation has been fully realized. The angle of the inferior maxillary bone, and the downward curvature of it is changed, so that it has now acquired its natural position and movements. She has also acquired entire command of her lip. Her articulation is perfect with the exception of a slight lisp.

Her face, before the operation, besides being disgustingly offensive, contained an expression of the keenest anguish. It is now one of comeliness, cheerfulness, and content. Her mother told me a few days ago, that her poor daughter was no longer an object of loathing, but of admiration; that she was soon to be married to an intelligent, prudent, and thriving mechanic.

This is happily a rare disease. Cases of a similar kind, however, are to be found in the records of surgery, designated by the terms *Lingua Vilula*, *Lingua Propendula*, *Prolapsus Linguae*, *Macroglossia*, &c. GALEN, MARCET DONAT, and other early writers, have given brief notices of this affection. There is published in the first volume of the *Memoires de l'Institut National*, an interesting paper on the subject, entitled, "*Memoire sur le prolongement morbifique de la langue hors de la bouche*, par Pierre Lassus." In this publication is noticed several instances in which children were born with this disease. He has not only witnessed cases of this kind himself, but has collected others from CASPER PEUCER and ZACHIAS. When the tongue is found protruded at birth, Lassus infers that it was injured during delivery. He succeeded in effecting cures in recent cases by the simple method which I have already detailed, but he has greatly erred in supposing this method applicable to all cases.

It is stated in the "*Acta Litteraria et Scientiarum Sueciae*, anno 1732," Vol. III. that the Society of Medicine of Stockholm assembled in 1695, for the purpose of examining a girl of ten years old, who from her birth was disfigured by a protrusion of the extremity of her tongue from her mouth. It protruded four inches, and was two inches thick. She could neither close her mouth, retain her saliva, nor speak distinctly. It was determined in consultation to amputate the protruded portion of the tongue, and HOFFMAN, a celebrated surgeon of Stockholm was charged with the operation. The hæmorrhagy was restrained by the actual cautery. The case terminated so favourably that the patient could afterwards speak and swallow with perfect facility.

In the article *Langue*, in the *Dictionnaire des Sciences Médicales*,

we find recorded an interesting case of protruded tongue, with an accompanying plate, by Baron PERCY. This case was also amputated successfully. There was found no difficulty in arresting the hæmorrhagy. He states that "the actual cautery, tenacula, ligatures, armed needles, styptics, and every other means to restrain terrible hæmorrhagy was prepared before the operation." Contrary to his expectations, the flow of blood was so very inconsiderable, that he did not find it necessary to employ even a ligature.

MIREAULT, a distinguished surgeon of Angers, operated successfully, in September, 1813, in the case of a chronic enlargement of the tongue of long standing, by means of the silken ligature. Though he represents his case under as favourable a point of view as truth would warrant, yet by a reference to his statement it will be seen, that he was obliged to re-apply the ligature twice, and that thirteen days elapsed between its first application, and the entire separation of the slough. The sufferings of the patient must doubtless have been severe, yet they are not noticed in his report.

It appears then that there are three methods by which this affection is treated. The first is by depletion, forcing the tongue into the mouth, and retaining it there by confining the jaws in contact by means of a roller—the second is by ligature, and the third by amputation. The first plan, which is that so confidently recommended by Lassus, is only adapted to recent cases. The second, though warmly applauded by Inglis and Home of England, and Mireault of France, is yet exceptionable, from the difficulty of interrupting the circulation—from its inducing inflammation and great pain in that part of the tongue within the mouth—from its tediousness in accomplishing the removal of the prolapsed portion of it, and from the inconvenience arising from the discharge of offensive matter before the strangulated part sloughs off.

From these considerations, I consider amputation the most preferable operation. The only possible objection to it is the apprehension of fatal hæmorrhagy. Judging from the reported cases in which this operation has been performed, and particularly from my own case, which is above detailed, I should not apprehend the slightest difficulty, in either arresting the flow of blood, or in any other part of the treatment. The celerity with which amputation may be performed, and the consequent diminution of suffering to the patient, furnish strong reasons for giving it a decided preference.

The subjoined plate will exhibit the condition of the patient before and after the operation.

Philadelphia, Sept. 8th, 1830.